

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By					
				Lead hand / Supervisor Approval Verification					
				QC / QA Coordinator Approval					

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

Work Order ID 163941

163941

Page 2

Monday, July 10, 2017 12:49:25 PM

Item ID: D5953 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle
 Start Date: 7/19/2017 Start Qty: 4.00 *4* Cust Item ID:
 Required Date: 8/4/2017 Req'd Qty: 4.00 *4* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00				(4)	0		2017-08-14
130									JSL
HandFinish	Memo	0.51							BEB
Hand Finishing									
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
140									
Powdercoat	Memo	0.51							
Powder Coating	START TIME: 8:05 OVEN TEMPERATURE:								
	FINISH TIME: 8:35								
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.04							
Quality Control									

DAS
38
AUG 23 2017

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐								
		OTHER : _____							

Work Order ID 163941

Monday, July 10, 2017 12:49:25 PM

163941

Page 3

Item ID: D5953 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle
 Start Date: 7/19/2017 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 8/4/2017 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: ST397	0.00							
160									
Packaging	Memo	0.04							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.40							
Quality Control									

DAS
6
9-89

4 **AUG 29 2017** **17/9/16**

DAS
21
9-89

AUG 30 2017

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By 					
				Lead hand / Supervisor Approval Verification 					
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Root Cause			FAULT CATEGORY								
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

Monday, July 10, 2017 12:49:23 PM

Page 1

Work Order ID: 163941

163941

Parent Item: D5953

D5953

Parent Item Name: Saddle

Start Date: 7/19/2017

Required Date: 8/4/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:E Re-Format 05-11-29 JLM
IPP Rev:f ecn 826 06.12.06 EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-007		Manufactured	No			100	Each	24.0000	1	4			
D6101-007									**				
Saddle Billet													

DAS

44

9-09

17-08-09.

Location

Loc Qty

Loc Code

MAT041

24

159162

4

159705

20

164013

→

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Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

DART AEROSPACE LTD		Work Order: 163941
Description: Inner Fwd Saddle		Part Number: D5953
Inspection Dwg: D5953	Rev: B	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	1	2	3	4		
A	0.438	0.443		0.440	0.440	0.440	0.440		
B	1.745	1.755		1.749	1.749	1.749	1.749		
C	5.245	5.255		5.249	5.249	5.249	5.249		
D	6.995	7.005		6.998	7.000	7.000	7.000		
E	5.240	5.260		5.250	5.25	5.250	5.250		
F	4.745	4.755		4.749	4.749	4.749	4.749		
G	0.315	0.322		0.318	0.317	0.318	0.318		
H	1.522	1.532		1.527	1.527	1.520	1.527		
I	3.048	3.058		3.053	3.053	3.053	3.053		
J	4.575	4.585		4.580	4.580	4.580	4.580		
K	0.315	0.322		0.316	0.317	0.317	0.317		
L	0.495	0.505		0.500	0.500	0.500	0.500		
M	0.490	0.510		0.504	0.503	0.505	0.504		
N	1.615	1.635		1.632	1.633	1.633	1.632		
O	7.990	8.010		7.998	7.998	8.000	8.000		
P	2.240	2.260		2.250	2.250	2.250	2.250		
Q	0.307	0.312		0.312	0.312	0.312	0.312		
R	0.760	0.765		0.762	0.762	0.762	0.762		
S	0.490	0.510		0.498	0.498	0.500	0.500		
T	1.375	1.395		1.385	1.383	1.383	1.382		
U	2.000	2.020		2.000	2.004	2.004	2.004		
V									
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
Accept/Reject									

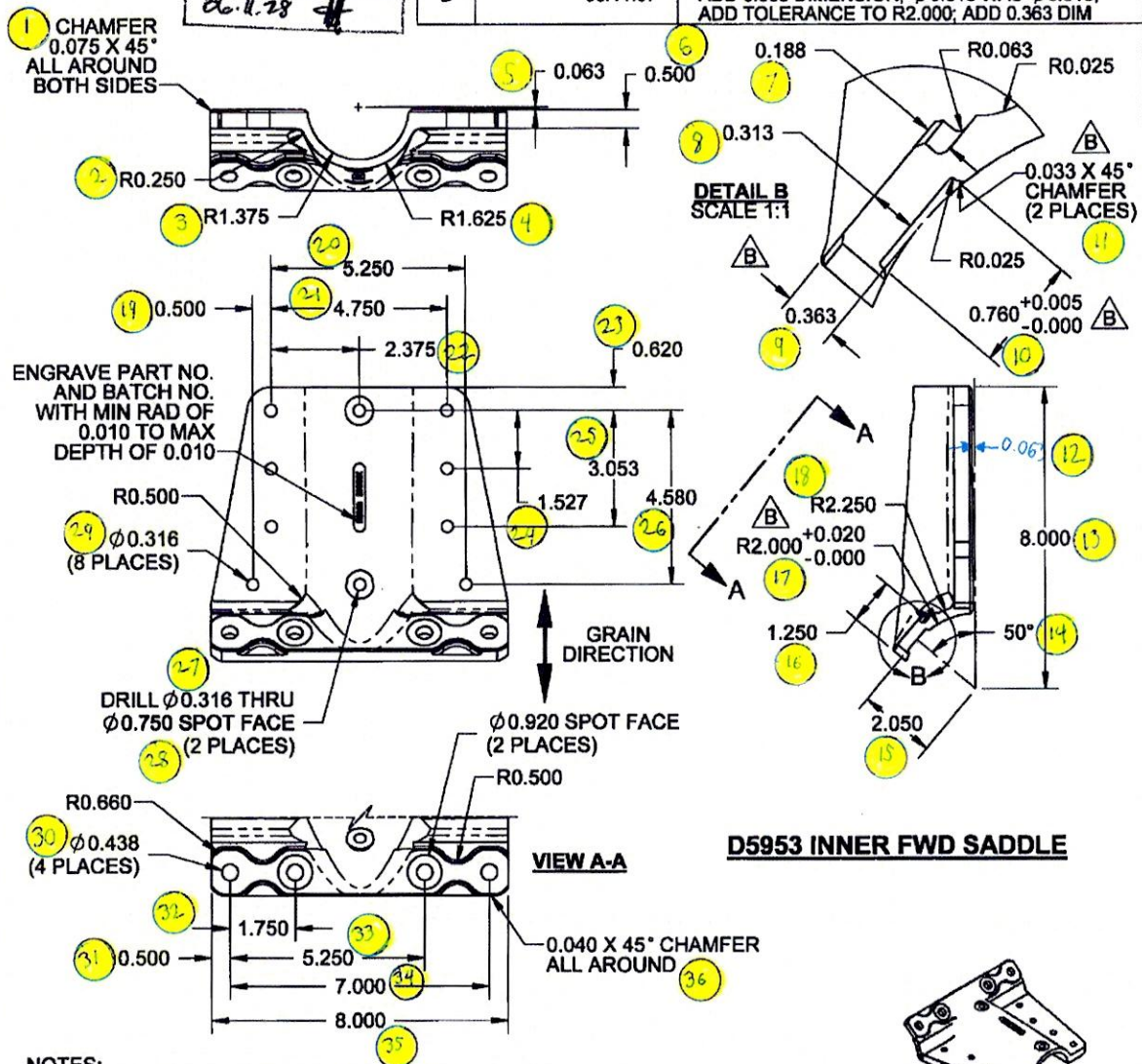
Measured by:	DAS 9-89 / SBL
Date:	2017-8-10

Audited by:	DAS 49
Date:	9-89 12/08/12

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686 & DT8696 A/B	KJ/RF	
C	06.12.06	Dimensions L,N,P revised	KJ/EC	
D	07.06.15	Dimension G revised	KJ/JLM	
E	08.04.21	Dimension E revised	KJ/DD	
F	08.12.01	Dimension K revised	KJ/DD	

DART

DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED LE	APPROVED #	DRAWING NO. D5953	REV. B SHEET 1 OF 1
DATE 06.11.07	TITLE INNER FWD SADDLE		
REV A	DATE 97.05.06	DESCRIPTION NEW ISSUE	
REV B	DATE 06.11.07	DESCRIPTION INCORPORATE DEO 9102, DEO 9079; ADD 0.363 DIMENSION; $\phi 0.316$ WAS $\phi 0.313$; ADD TOLERANCE TO R2.000; ADD 0.363 DIM	

**NOTES:**

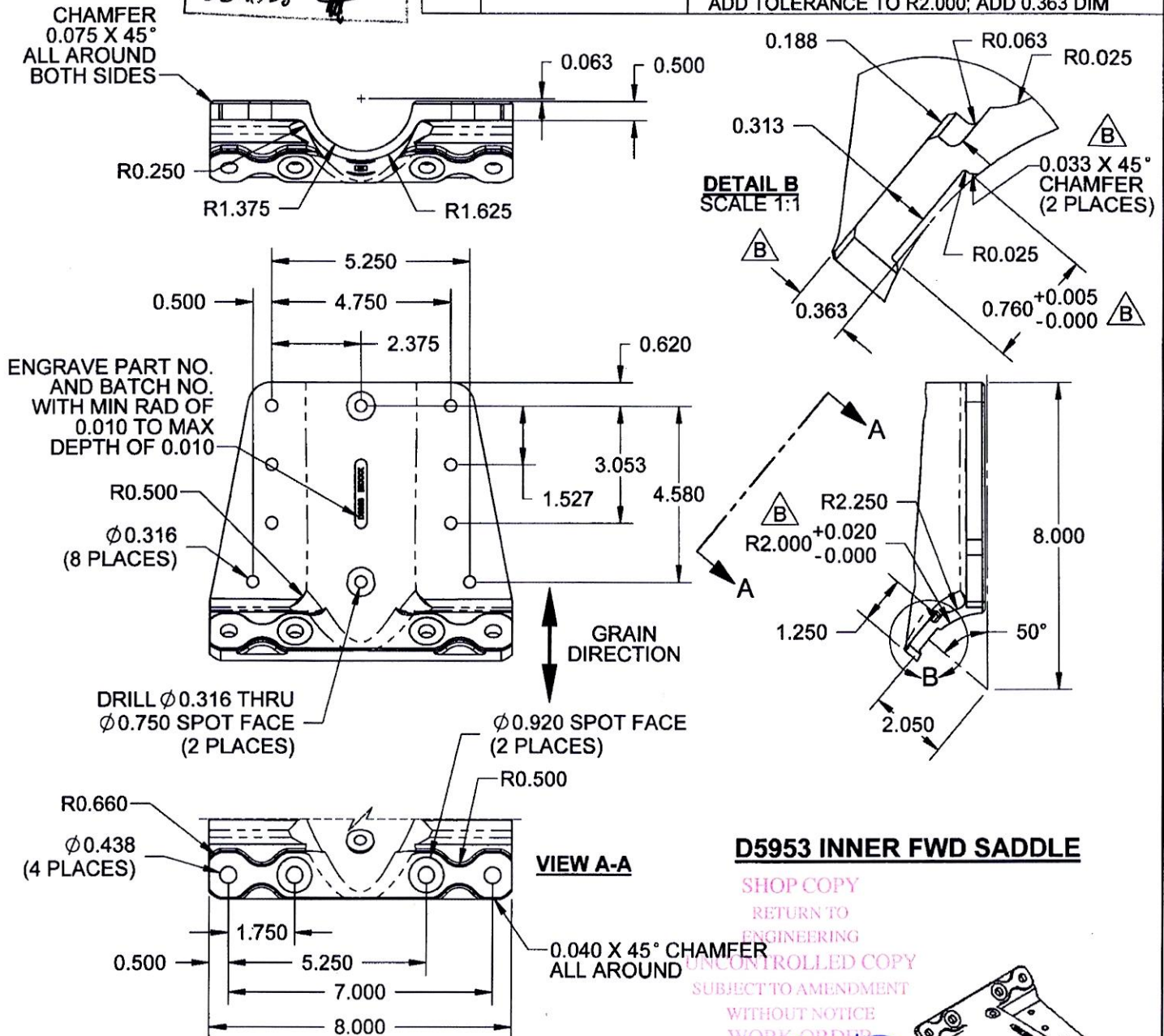
- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12 (MAKE FROM D6101-007 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.010 TO 0.020

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DART

DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED LE	APPROVED [Signature]	DRAWING NO. D5953	REV. B SHEET 1 OF 1
DATE 06.11.07	TITLE INNER FWD SADDLE SCALE 1:4		
REV	DATE	DESCRIPTION	
A	97.05.06	NEW ISSUE	
B	06.11.07	INCORPORATE DEO 9102, DEO 9079; ADD 0.363 DIMENSION; $\phi 0.316$ WAS $\phi 0.313$; ADD TOLERANCE TO R2.000; ADD 0.363 DIM	

**NOTES:**

- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12
(MAKE FROM D6101-007 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
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